



BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM::HYDERABAD::32
FACTORY CIVIL ENGINEERING DEPARTMENT

SCHEDULE- A

Tender Notice No:

HY/FCD/OT-08/16-17, Dt: 22.07.2016

PRICE BID

Item no.: 3

Name of work:- Maint. of structural steel works, AC sheet roofing, rainwater pipes in Factory area and Admn. Bldg.

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
1	Repairing the leaking PVC joints of rain water pipes, at all levels in factory blocks. The work includes opening of joints, cleaning properly and applying sealing compound to arrest further leakages in the joints. The rate quoted shall include cost of all jointing materials and labour etc., complete all as directed by engineer-in-charge.	400.00	Each	37.75	15,100.00
2	Closing of sheet cracks, bolt holes or any puchers in the A.C. sheets at roof levels. (Required consumable materials will be supplied by BHEL free of cost at their stores) etc., complete all as directed by engineer-in-charge.	400.00	Each	9.30	3,720.00
3	Removing old G.I. bolts, nuts and washers from the existing A.C. sheeting work or roofs and side cladding of factory blocks and fixing with new G.I.6.5mm dia 'L' bolts with nuts, washers, bitumen washers etc., complete all as directed by engineer-in-charge. The new G.I. bolts should be dipped in Acid/Alkali resisting paint before fixing in position. The bolts, nuts and washers etc., should be suitable as per site conditions. (GI 'J' Bolts & 'L' Bolts, washers and nuts will be supplied by BHEL at their stores).	300.00	Each	2.86	858.00
4	Removing the existing broken A.C./M.S. spiral pipes/PVC pipes and fixing new P.V.C. pipes of 100 mm to 200 mm dia and standard length including cost of jointing materials, labour, adhesive, and dismantled pipes to be handed over to Dept. etc., complete all as directed by engineer-in-charge. (P.V.C. pipes and specials will be supplied by BHEL free of cost).	360.00	R.M	77.14	27,770.40
5	Fabricating and fixing MS Clamps of 50 mm width fabricated with MS flat/plate of 3.15 to 5 mm thick for PVC pipes of 150 mm dia at all heights of blocks, drilling suitable holes for clamping the pipe with bolts of 16 mm dia of suitable length with nuts, welding the clamps to the MS columns etc., complete as directed by Engineer-in-charge. The rate quoted shall include cost of bolts, nuts and washers, painting two coats with Synthetic Enamel paint over a coat of red oxide primer. (MS plates, flats, acetylene, oxygen will be issued at free of cost by BHEL at their stores).	200.00	Each	31.36	6,272.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
6	Fixing M.S./G.I. flashing over the roof of factory blocks or outside walkways, gutters and around ducting including cutting, bending, fixing in position etc., complete as directed by Engineer-in charge.	100.00	Sq.M	103.68	10,368.00
7	Making locking arrangements to panelled steel door shutters, sliding doors/rolling shutters such as aldrops, tower bolts if any. Such arrangements including gas cutting, welding etc., complete as directed by Engineer-in-charge.	100.00	Each	293.63	29,363.00
8	Fabrication and erection of panelled steel door shutter sliding or hinged, Including gas cutting, welding of sheets or angles wherever required etc., complete as directed by Engineer-in-charge. (Structural steel sections will be issued free of cost by BHEL).	135.00	Sq.M	216.09	29,172.15
9	Dismantling M.S. partitions (Weldmesh, glazed or panelled) of standard size 1.20 M x 2.40 M or 1.20 x 3.30 M including M.S. Posts and transporting and stacking the materials for reuse etc., complete as directed by the Engineer-in-charge (The rate shall include for removing glass panes before dismantling glazed partitions and stacking glass panes).	15.00	MT	560.56	8,408.40
10a	Fabrication of M.S. partitions, (weldimesh, glazed or panelled) of the following sizes as directed. (Strl. Steel sections will be issued free of cost by BHEL). i. Size 1.20 M x 2.40 M.	50.00	Each	490.42	24,521.00
b	ii. 1.20 M x 3.30 M.	20.00	Each	651.86	13,037.20
11a	Erection of M.S. partitions (No fabrication) weldmesh / glazed or panelled of the following sizes, with required M.S. posts for fixing with nuts and bolts, drilling holes in C.C. floor complete as directed by Engineer-in-charge. The rate shall include for cost of fixing glass panes after erection of partition frame in case of glazed partition. i. Size 1.20 M x 2.40 M	25.00	Each	390.00	9,750.00
b	ii. 1.20 M x 3.30 M size.	20.00	Each	566.18	11,323.60
12	Erection of steel doors for M.S. steel partition for cabins (weldmesh, glazed or panelled) with required M.S. posts and all accessories such as hinges, aldrops etc., including gas cutting, welding etc., complete as directed by Engineer-in-charge. (The rate shall include for fixing glass panes after erection of door in case of glazed doors). (Size approximately 1.20Mx2.40M).	12.00	Each	64.83	777.92
13	Fixing of weldmesh / expaned metal to angle iron frame of suitable size for RCC louvers/ceiling including gas cutting and welding as directed by the Engineer-in-charge. (M.S. angle iron frame, weldmesh/expanded metal will be supplied by BHEL at their stores at free of cost).	100.00	Sq.M	60.67	6,067.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
14	Dismantling of weldmesh / expanded metal from ceiling including gas cutting etc., complete as directed by Engineer-in-charge. The dismantled materials should be handed over to BHEL stores for reuse the same wherever it is required.	50.00	Sq.M	31.97	1,598.50
15	Fabrication of structural steel work including all materials going into the process of fabrication and forming an integral part of steel work together with all shop and site welding as necessary and all site connections. The rate shall include painting with one coat of red oxide as per I.S. specification and all site charges for handling, leading and loading and unloading of materials at fabrication yard. (The raw structural steel sections acetylene, oxygen will be issued free of cost) etc., complete all as directed by engineer-in-charge.	50.00	MT	8,871.00	4,43,550.00
16	Erection of structural steel work outlined above including the charges for handling, leading and stocking at the site at approved locations prior to erection include all site welding, revittings, bolting, jointing and site welding etc., complete all as directed by engineer-in-charge.	50.00	MT	3,802.00	1,90,100.00
17	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and stacking in factory scrap yard upto 2 Km lead etc., complete all as directed by engineer-in-charge.	50.00	MT	1,616.80	80,840.00
18	Dismantling the existing structural steel work Carefully by loosening nuts, gas cutting as per the site conditions and re-erecting the same, suitably modifying by gas cutting, welding, drilling new holes, jointing the new members by welding or bolting etc., complete all as directed by engineer-in-charge.	30.00	MT	3,807.77	1,14,233.10
19	Erection of cycle shed of 5 spans including erection of steel posts, trusses and purlins and fixing of Galvalume /A.C. sheet and ridges, using 'J' bolts, nuts, etc., complete as directed by Engineer-in-charge. (labour charges only).	1.00	Each	6,631.39	6,631.39
20	Dismantling reinforced cement concrete / plain cement concrete and disposing of debries upto to a lead of 2 KM including loading, unloading and spreading as directed by Engineer-in-charge etc., complete all as directed by engineer-in-charge.	10.00	Cu.M	1,053.15	10,531.50
21	Earth work excavation in all soils except rock requiring blasting for an initial lead of 10 M and initial depth of 1.5 M including strutting, shoring if any and dressing the bottom of excavation to receive concrete etc., complete all as directed by engineer-in-charge.	70.00	Cu.M	130.80	9,156.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
22	Plain cement concrete 1:4:8 using 20 mm and down graded granite stone metal for levelling course including ramming, consolidation curing etc., complete. (60% of 20 mm metal and 40% of 10 mm metal). The cement and steel will be issued free of cost by BHEL at BHEL stores etc., complete all as directed by engineer-in-charge.	50.00	Cu.M	2,606.00	1,30,300.00
23	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering, shuttering, finishing and reinforcement, including consolidation by vibrations for all works up to plinth level with 1:1½ :3 (1 cement : 1½ coarse sand : 3 graded stone aggregate of 20 mm nominal size). The cement and steel will be issued free of cost by BHEL at BHEL stores.	10.00	Cu.M	2,772.00	27,720.00
24	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete by cold twisted bars (BHEL will issue Tor Steel at their stores on free of cost).	10.00	M.T	7,369.00	73,690.00
25	Dismantling of cycle shed of 5 spans including removal. Transporting and stacking at BHEL stores or any other place (upto 2 KMs. lead) for reuse of A.C. sheet, ridges, purlins, trusses, columns, etc., complete steel columns shall be loosened by breaking concrete using necessary tools etc., complete all as directed by engineer-in-charge.	5.00	Each	4,211.89	21,059.45
26	Removing the existing A.C. sheets carefully from factory blocks and ceiling along with 'J' blots, nuts etc., of steel cabins and cycle sheds, transporting and stacking at BHEL stores or other specified places (upto 2 KMs., lead) as directed by Engineer-in-charge.	300.00	Sq.M	38.02	11,406.00
27a	Fabrication and fixing of M.S./G.I. pipes/M.S. round for railings to crane gantries. Catwalkways at all heights by jointing or connecting through threading, welding etc., complete all as directed by engineer-in-charge.	200.00	RM	74.14	14,828.00
b	-----do----- ground level	300.00	RM	63.03	18,909.00
28	Fabrication bending to shape and erection of rain water gutters at roof level including all materials going into the process of fabrication and fixing an integral part of steel work together with all rivets and electrodes for shop or site weldings necessary and all site conditions. The rate shall include removal of old/spoiled valley /eaves gutters, painting with one coat of red oxide to relevant IS specification before erection and also for all charges for handling, loading and unloading of materials at fabrication yard. The work has to be executed at full height of the blocks etc., complete all as directed by engineer-in-charge.	20.00	MT	10,701.22	2,14,024.40

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
29	Supplying and fixing aluminium strips for fixing wire glasses including removal and disposal of the existing damaged aluminium strips to specified places (upto a maximum lead of 2 KMs.) etc., complete all as directed by engineer-in-charge. The strips should be suitable to the glasses.	100.00	RM	122.85	12,285.00
30	Fixing in position of North light glazing to factory blocks including fixing of wired glasses, aluminium strips, glazing runners, accessories, bolts, nuts, washers, clamps etc., complete all as directed by engineer-in-charge. (Only labour charges are to be quoted, and all materials will be issued free of cost by BHEL at their stores).	300.00	Sq.m	66.65	19,995.00
31	Repairs to sliding doors / rolling shutters / panelled type doors / collapsible gates etc., in factory area including lowering of shutters, repairing in all respects such as straightening of bends, welding of sheets or angles, wherever required and reerecting the same including locking arrangements, before and after closing the doors. The doors to be finished in good condition etc., complete all as directed by engineer-in-charge.				
31a	Repairs / Replacement of hinges.	70.00	Each	90.00	6,300.00
31b	Locking arrangements	20.00	Each	74.05	1,481.00
31c	Repairs to shutters	100.00	Sq.m	250.49	25,049.00
32	Removing the existing unserviceable collapsible shutter and handing over to stores, supplying and fixing in position new collapsible steel shutter with vertical channels 20 mm x 10 mm x 2 mm braced with flat iron diagonals 20 mm x 5 mm size with top and bottom rails or M.S. 'T' 40 mm x 40 mm x 6 mm with 38 mm dia steel pulleys complete with bolts and nuts. locking arrangements, stoppers, handles, including applying one coat of red oxide primer before erection and two coats of synthetic enamel paint of approved colour and brand after erection etc., complete all as directed by engineer-in-charge (Including cost of all materials).	25.00	Sq.M	2,259.09	56,477.25
33	Repairs to steel windows ventilators such as welding of rivets, flats, pegstays, stoppers, parliamentary hinges and straightening of bends in the frame work etc., complete all as directed by engineer-in-charge. (Plates and pegstays will be given free of cost at BHEL stores).	160.00	Sq.M	77.14	12,342.40
34	Removing of AC sheet over annexe terrace and cleaning the terrace and refixing the AC sheets after cleaning etc., complete as directed by Engineer-in-charge.	150.00	Sq.M	22.59	3,388.50
35	Supply and fixing 5 mm thick polycarbonate sheets and anodised aluminium glazing bars together with accessories complete for North light glazing including cost of all materials, labour etc., complete all as directed by engineer-in-charge.	40.00	Sq.m	1,052.13	42,085.20

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
36	Fixing of Aluminium zinc alloy coated metallic roofing sheet of 0.5 mm thk. 1 mtr width and length upto 12 mts with factory cut and fixing to the roof shall be crest fixed to roof purlins with number 12-14 x 55 mm long polymer coated galvanised hex head self drilling screws with integral washers and EPDM seals (4 fastners for support) for sheet etc., complete all as directed by engineer-in-charge. (Excluding cost of galvalume sheets which will be issued free of cost by BHEL at their stores) - For roofing, side cladding and louvers with necessary fixtures.	700.00	Sq.m	87.12	60,984.00
37	Fixing North Light curves in required girth with 0.5 mm color aluminium zinc alloy coated metallic sheet upto a length of 2.5 M having curved width upto 600 mm fixing to the steel members with self drilling / self stitching, fasteners at a maximum of 500 mm c/c along the length of capping, flashing etc., complete as directed by Engineer-in-charge. (Only North light curves will be issued free of cost at BHEL stores).	70.00	Sq.m	79.21	5,544.70
38	Repairs to Aluminium rolling shutters by supplying and replacing the damaged aluminium strips with new one. The rate quoted shall include the cost of all materials, labour for fixing etc., complete all as directed by engineer-in-charge. (The payment will be made for the finished area of aluminium strips replaced only).	100.00	Sq.m	514.38	51,438.00
39a	Supplying and fixing plain PVC pipe of 200 mm dia of 6 kg's/cm ² of approved quality with specials, accessories and approved sealing /jointing compound on the exterior of the inserted portion of the fitting and fixing in position and joining to MS gutters, including cost of all materials, sealing compound, labour etc., for all heights etc., complete all as directed by engineer-in-charge.	70.00	RM	980.00	68,600.00
b	Supplying and fixing plain PVC pipe of 160 mm dia of 6 kg's/cm ² of approved quality with specials, accessories and approved sealing /jointing compound on the exterior of the inserted portion of the fitting and fixing in position and joining to MS gutters, including cost of all materials, sealing compound, labour etc., for all heights etc., complete all as directed by engineer-in-charge.	120.00	RM	650.00	78,000.00
40	Painting at site of all structural steel work with 2 coats of aluminium paint / synthetic enamel paint of approved shade to trusses, columns, girders, bracings etc., with aluminium paint or synthetic enamel paint as required etc., complete all as directed by engineer-in-charge. The required paint EXCEPT Redoxide primer only will be issued by B.H.E.L at FREE of cost at their stores.	50.00	MT	696.07	34,803.50

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
41	Providing and laying APP (Atactic polypropylene Polymer) Modified prefabricated five layer, 3mm thick water proofing membrane, black finished reinforced with glass fibre matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 ltr/sq.m by the same membrane manufactured of density at 25 °C, 0.87 - 0.89 kg/Ltr and viscosity 70-160 Cps. over the primer coat the layer of membrane shall be laid using butane torch and sealing all joints etc.; and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under: joint strength in longitudinal and transverse direction at 23°C as 350/300 N/5cm. Tear strength in longitudinal and transverse direction as 60/80N. softening point of membrane not less than 150 °C. Cold Flexibility shall be upto - 20°C when tested in accordance with ASTM, D- 5147. the laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane - 3 mm thick etc., complete all as directed by engineer-in-charge.	100.00	Sq.m	254.68	25,467.80
42	Supply & Fixing of Sealant Solution to the aluminium zinc alloy coated metallic hirib profile sheet and ac sheet J-bolts nut washers to arrest the water leakages in the sheets at all heights for production blocks, including cost of all materials, labour charges, safety precautions etc. complete all as directed By Engineer-in-charge. Make: Dow Corning (R) 736 heat resistant/ RTV/ Dr Fixit or equivalent make as certified by engineer-in-charge.	600.00	Each	161.20	96,717.60
43	Supply & fixing of water proofing membrane, TEXSELF 1.5 AL foil finish, Self adhesive, elastomeric SBS Bitumen - based, with an embossed aluminium foil finish on the upper side and an easily removable silicon film on the underside with an overlap of 75 mm on the longitudinal and 100 mm on the transverse directions and sealing all overlap joints with rubber roller to make the surface monolithic. The above membrane shall be fixed after thorough cleaning of surface and shall be free from grease, oil, dust, loose (or) badly adhered materials and any general dirt and applying PIBIAL, solvent based bituminous primer @ 0.300 Kg/Sq.m, on thorough cleaned surface and before fixing of TEXSELF 1.5 AL foil finish, self adhesive, water proofing membrane, as directed by Engineer-in-charge. It includes cost of all materials, labour, transportation charges, all taxes and duties, except Service tax, which is extra as per service tax norms will be paid by BHEL to the agency after submission of necessary documents. The work is to be carried out through authorised applicator of the manufacturer.	200.00	Sq. m	530.63	1,06,126.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
44	Re-alignment of EOT Crane rails of size from 52.1 KG rail to CR 120 rails: Dismantling of existing rail clamps, realignment of existing rails using proper shims for levelling , cutting of rails at irregular/damaged joints, closing in the joints leaving a expansion gap of 10mm between rails, welding the clamps to the girder at specified intervals and clamping the rail. The rails are to be realigned carefully to esure the relative distance between the rail and the DSL line is not disturbed. Minimum of 2 SW, 2 SSW and 2 USW shall be engaged for the above work. The rate includes tools, machinery, labours, Safety PPE`s etc., complete all as directed by engineer-in-charge. (Only rail clamps, welding electrodes, and rails shall be issued free of cost at BHEL stores).	100.00	RM	151.01	15,101.00
45	Dismantling of the damaged/worn-out rail sections , and Erection and alignment of rails to an even level with proper shims and clamps. The dismantled rails are to be conveyed and stacked at the departmental stores upto a lead of 2.00KM. (Only rails, clamps and welding electrodes shall be issued free of cost at BHEL stores) etc., complete all as directed by engineer-in-charge.	15.00	MT	3,814.66	57,219.90
46	Removing of old A.C. sheets, translucent sheets from roof, side walling of factory blocks and sheds and refixing with new/old sheets at all height including transportation of A.C. sheets and disposing off old sheets to a lead of 2 K.Ms. etc., complete all as directed by engineer-in-charge. (Required consumable materials will be supplied by BHEL free of cost at BHEL stores).	100.00	Sq.M	70.34	7,034.00
47	Supplying and fixing of Fibre Reinforced acrylic roofing sheets 3mm thick of light blue/white shade & of approved brand to match with Roofing sheet including cost of all materials such as self driven bolts, nuts, washers etc. and fixing at all heights of the factory blocks etc., complete all as directed by engineer-in-charge.	30.00	Sq.M	1,302.00	39,060.00
48	Supply & Fixing of 0.5 mm thick colour sheet flashings hood / ridges/ triangular portion closers to require shape with self threaded screws etc., complete all as directed by engineer-in-charge.	30.00	Sq.M	900.00	27,000.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
49	Supply & fixing of non colour (bare) coated galvalume hirib profile sheet of nominal 1015-1020/1000-1080 mm effective cover width and 28-30 mm deep ribs with subtle square fluting in the five pan at nominal 202-205 mm centre-to-centre. The end rib shall be designed for anti-capillary action, to avoid any seepage of water through the lateral overlap. The feed material is manufactured out of nominal 0.45 mm Base Metal Thickness (BMT) or 0.5mm TCT, Hi-strength steel with minimum 550 MPa yield strength, metallic hot dip coated with Aluminium-Zinc alloy (55% Aluminium, 45% Zinc) as per AS 1397 —Zincalume AZ150 (Min. 150 gms/sq.mt total on both sides) with colourbond steel quality paint coat as per AS/NZS 2728 type 3-4. The paint shall have a total coating thickness of nominal 35 pm, comprising of nominal 20 pm exterior coat on top surface and nominal 5 pm reverse coat on back surface over nominal 5 pm primer coat on both surfaces of approved colour shade by concern authority. The sheet shall be crest fixed to roof purlins with number 12-14 x 55 mm long polymer coated galvanized hex-head self drilling screws with integral washers and EPDM seals (4 fasteners per support) for sheet etc., complete as directed by Engineer-In-Charge. (Supply of material in the scope of contractor including all fasteners).	30.00	Sq.m	529.00	15,870.00
50	Supply and Fixing North Light curves in required girth with 0.5 mm color Aluminium zinc alloy coated metallic sheets upto a length of 2.5 M having curved width upto 600 mm fixing to the steel members with self drilling / self stitching, fasteners at a maximum of 500 mm c/c along the length of capping, flashing etc., complete as directed by Engineer-in-charge including the cost of Aluminium zinc alloy coated metallic sheets, labour etc., complete.	100.00	Sq.m	720.00	72,000.00
Total Value of work				₹	25,05,455.86

Note:

1	A penalty of 0.5% of the gross value of work will be levied for every week's delay of work or part there of subject to a maximum penalty of 10% of the gross value of work executed after the period of completion.
2	The rates are inclusive of all taxes and duties except Service tax, swatch bhara tax which is extra as per service tax norms will be paid by BHEL to the agency after submission of necessary documents.
3	The tender % age quoted by the contractor shall be inclusive of all taxes and duties other than service tax as applicable from time to time.
4	All the bills of the contractors will be cleared subject to the production of clearance certificate by the contractors in respect of compliance of all statutory requirement, issued by IR section of HR department BHEL.
5	The agency shall submit the I.R. clearance certificate for the above work and arrange to get the final bill sent to Finance within one month from the actual date of completion of work.
6	The maintenance period of the work is 6 months . The security deposit will be released after satisfactory completion of the work and after getting I.R clearance and payment of final bill.

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
7	The agency has to produce medical fitness certificate from Government doctor for his workman for suitability of workers to work on heights.				
8	The agency has to pay the minimum wages to workers with statutory payments like ESI, PF etc., is as per BHEL notification and as per NIT. For USW=₹ 494.80, SSW=₹ 546.15, SW = ₹ 596.96 + ESI + PF + PPE's and other statutory if any.				
9	The agency has to bring police clearance certificate before engaging on work.				

Note : The bidders are required to quote the tender value on percentage (%) basis at excess or less or on par with estimate value in figures and words.

Tender %	In figure	In words
Excess		
Less		
Estimated value		